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DIVISION OF WORMS

ILLUSTRATIONS
OF THE
ZOOLOGY
OF THE
ROYAL INDIAN MARINE SURVEY SHIP
INVESTIGATOR,
UNDER THE COMMAND OF
COMMANDER T. H. HEMING, R.N.

FISHES.—Part V, Plates XVIII—XXIV.
CRUSTACEA.—Part VI, Plates XXXIII—XXXV.
MOLLUSCA.—Part II, Plates VII—VIII.

UNDER THE DIRECTION OF
A. ALCOCK, M. B., C.M.Z.S., SUPERINTENDENT OF THE INDIAN MUSEUM, FORMERLY
SURGEON-NATURALIST TO THE INDIAN MARINE SURVEY
AND OF
A. R. S. ANDERSON, B.A., M.B., SURGEON-NATURALIST TO THE INDIAN MARINE SURVEY.



Published under the Authority of Captain W. S. Goodridge, R.N.,
Director of the Royal Indian Marine.

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Zoology of the Royal Indian Marine Survey, Ship Investigator



EXPLANATION OF PLATE.

FISHES.

PLATE XVIII.

Fig. 1.—*Bathyseriola cyanea*, Alcock, Annals and Magazine of Natural History, (6), VI, 1890, p. 202, and (6), VIII, 1891, p. 23.

Fig. 2.—*Brephostoma carpenteri*, Alcock, Annals and Magazine of Natural History, (6), IV, 1889, p. 383, and (6), VI, 1890, p. 201.

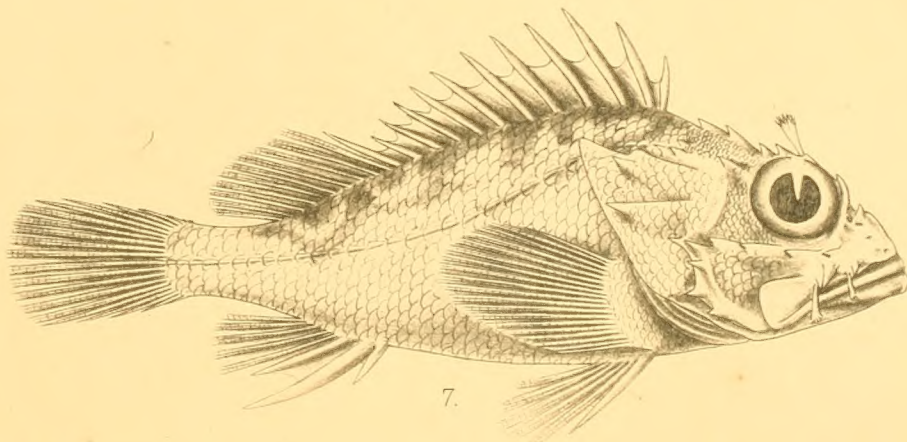
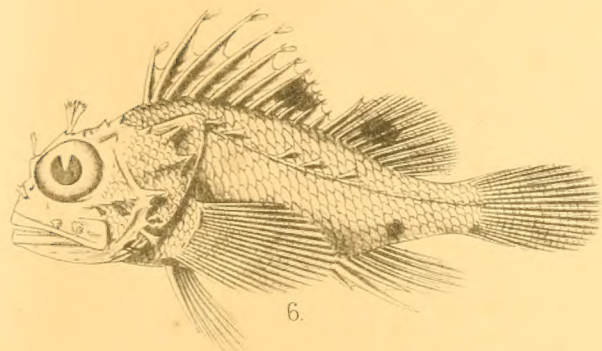
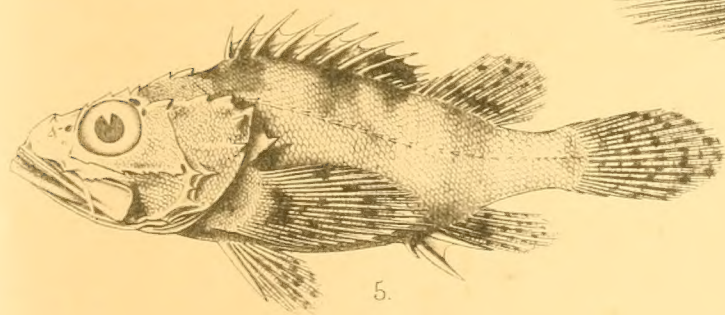
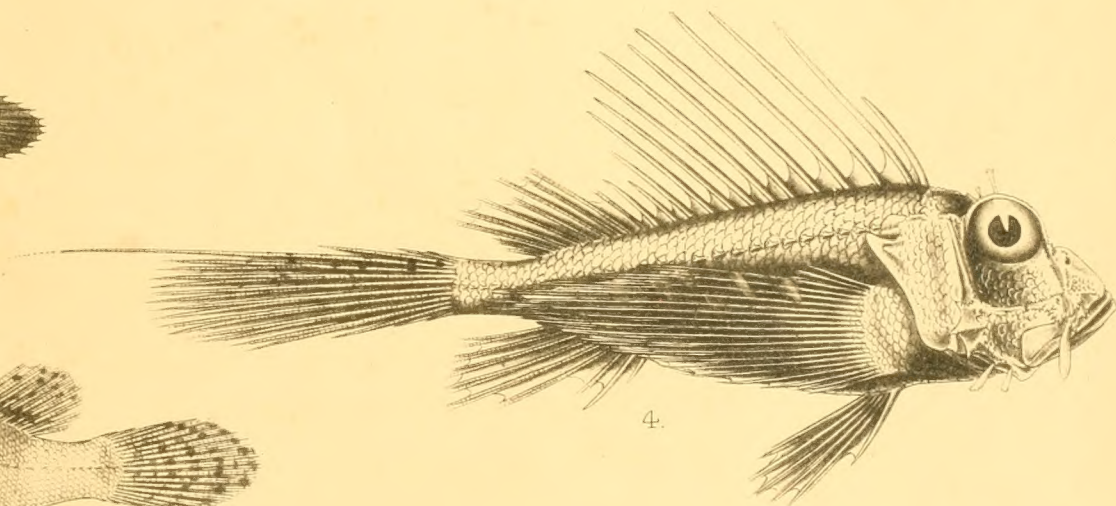
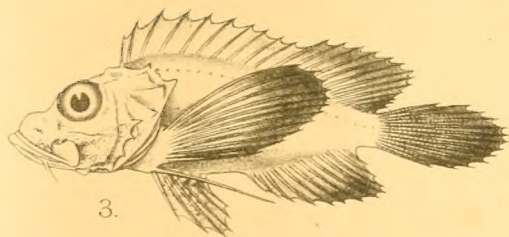
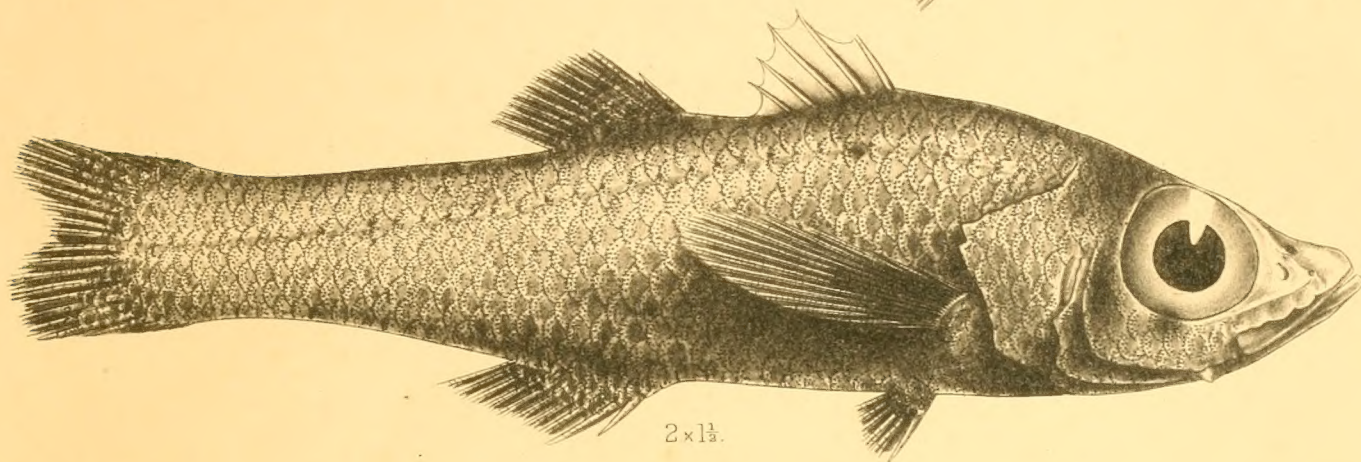
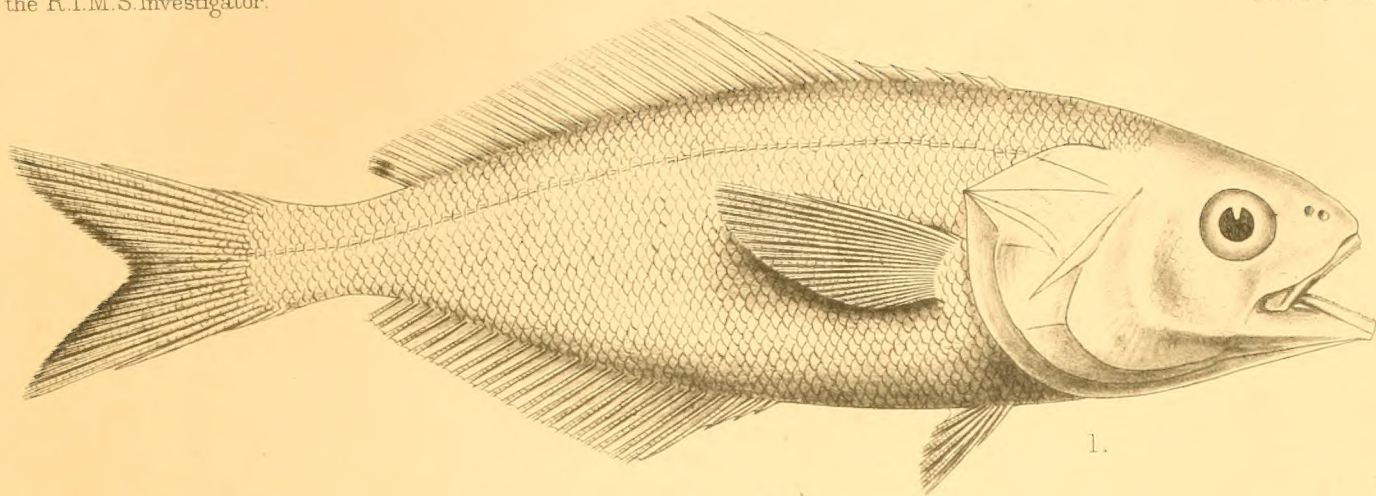
Fig. 3.—*Minous inermis*, Alcock, Journal, Asiatic Society of Bengal, Vol. LVIII, pt. 2, 1889, p. 299. Annals and Magazine of Natural History, (6), X, 1892, p. 207. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, 1894, p. 116.

Fig. 4.—*Pterois macrura*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV, pt. 2, 1896, p. 303.

Fig. 5.—*Sebastes muciparus*, Alcock, Journal, Asiatic Society of Bengal, Vol. LVIII, pt. 2, 1889, p. 298.

Fig. 6.—*Scorpæna erostris*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV, pt. 2, 1896, p. 302.

Fig. 7.—*Scorpæna bucephalus*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV, pt. 2, 1896, p. 302.



1. *Bathyseriola cyanea* 2. *Brephostoma carpenteri*. 3. *Minous inermis* 4. *Pterois macrura*.
5. *Sebastes muciparus*. 6. *Scorpaena erostris*. 7. *Scorpaena bucephalus*.

EXPLANATION OF PLATE.

FISHES.

PLATE XIX.

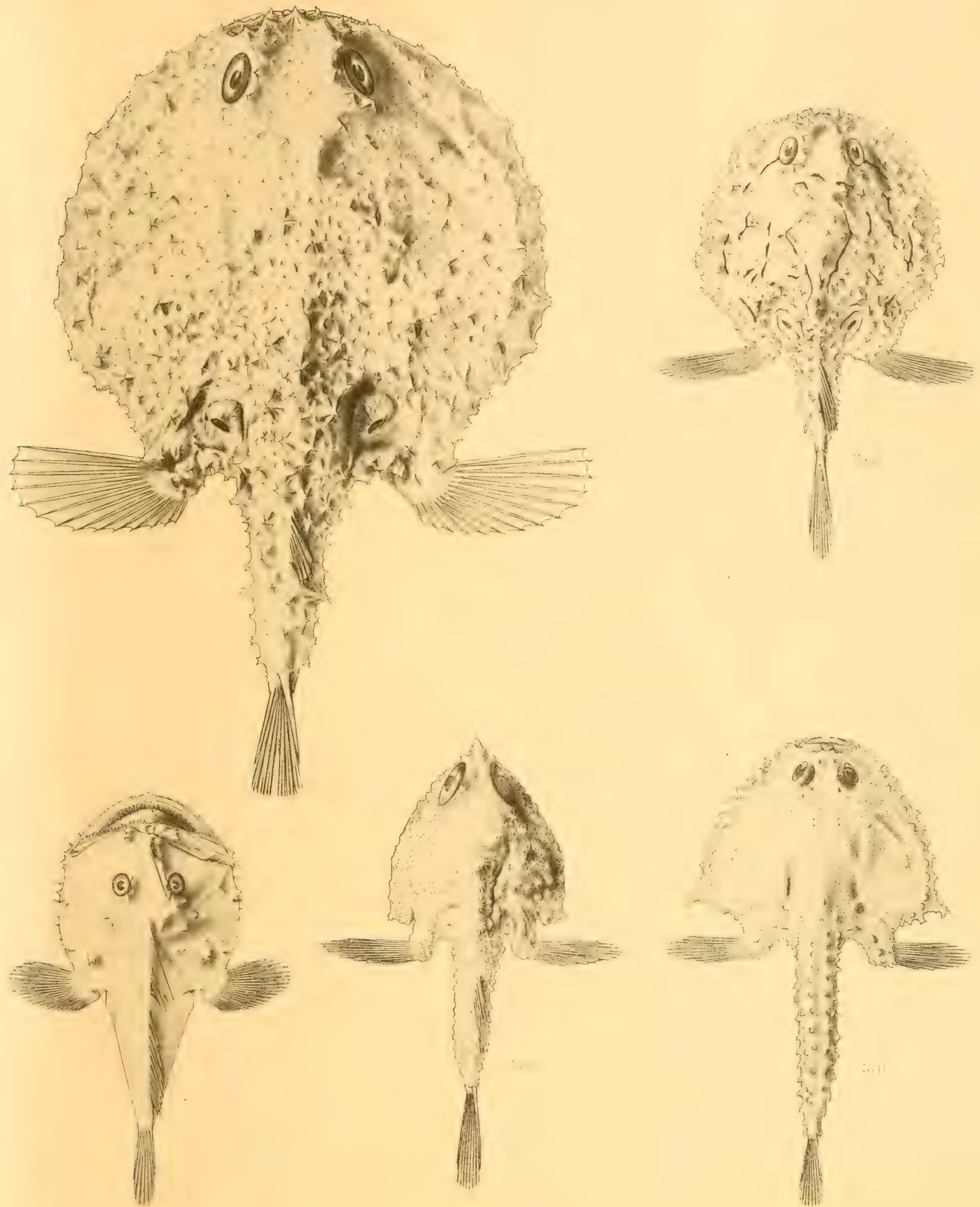
Fig. 1.—*Halientæa coccinea*, Alcock, Annals and Magazine of Natural History, (6), IV, 1889, p. 382. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, 1894, p. 120.

Fig. 2.—*Halientæa nigra*, Alcock, Annals and Magazine of Natural History, (6), VIII, 1891, p. 24. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, 1894, p. 120.

Fig. 3.—*Lophius indicus*, Alcock, Journal, Asiatic Society of Bengal, Vol. LVIII, pt. 2, 1889, p. 302.

Fig. 4.—*Malthopsis lutea*, Alcock, Annals and Magazine of Natural History, (6), VIII, 1891, p. 26.

Fig. 5.—*Halicmetus ruber*, Alcock, Annals and Magazine of Natural History (6), VIII, 1891, p. 27.



1. *Halieutaea coccinea*. 2. *Halieutaea nigra*. 3. *Lophius indicus*. 4. *Malthopsis lutea*. 5. *Halicometus ruber*.

EXPLANATION OF PLATE.

FISHES.

PLATE XX.

Fig. 1.—*Dibranchius micropus*, Alcock, Annals and Magazine of Natural History, (6) VIII, 1891, p. 25; and (6) X, 1892, p. 348.

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Fig 4.—*Callionymus carebares*, Alcock, Annals and Magazine of Natural History, (6) VI, 1890, p. 209.

Fig. 5.—*Tæniolabrus cyclograptus*, Alcock, Annals and Magazine of Natural History, (6) VI, 1890, p. 430.

Fig. 6.*—*Bembrops gobioides* (Goode), Proc. U. S. Nat. Mus., III, 1880, p. 347: Goode and Bean, Oceanic Ichthyology, p. 290. *Vide* Alcock, Annals and Magazine of Natural History, (7) II, pp. 141, 142.

Fig. 7.—*Amblyopus arctocephalus*, Alcock, Annals and Magazine of Natural History, (6) VI, 1890, p. 432.

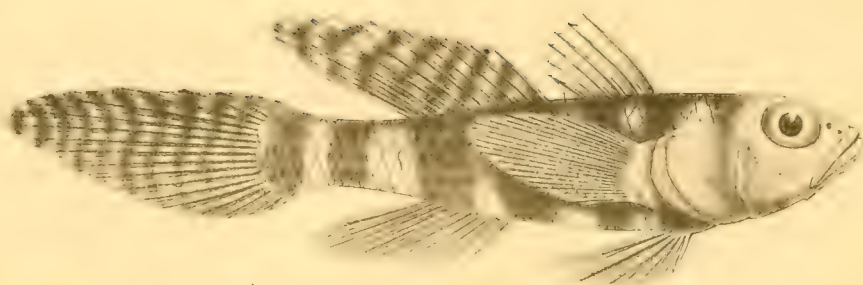
* *Hypsicometes gobioides* Goode, = *Bembrops platyrhynchus* Alcock.



1. 15



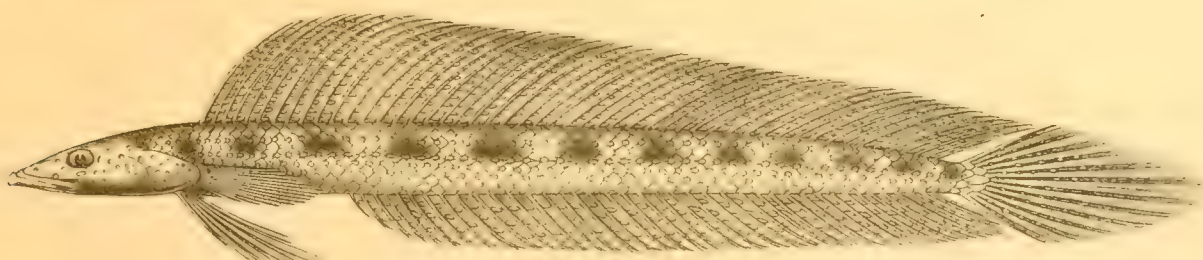
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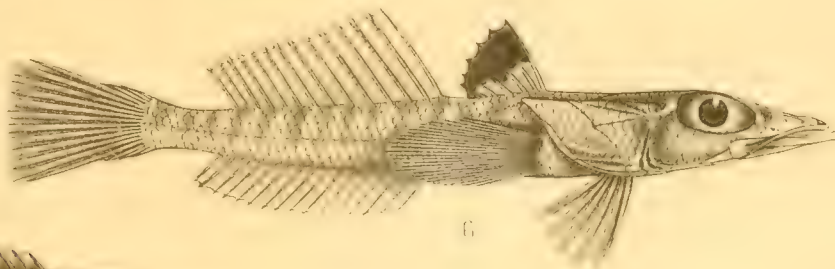
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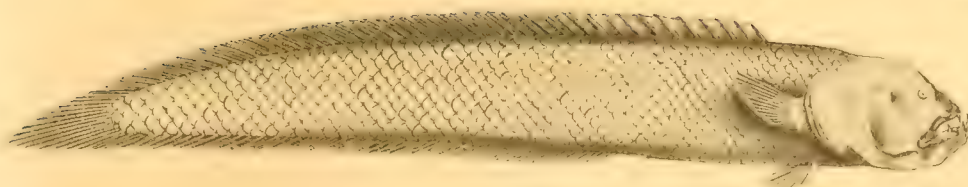
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1. *Dibranchius micropus*. 2. *Dibranchius nasutus*. 3. *Gobius cometes*. 4. *Callionymus can*.
5. *Taeniolabrus cyclograptus*. 6. *Bembrops platyrhynchus*. 7. *Amblyopus arctocephalus*

EXPLANATION OF PLATE.

FISHES.

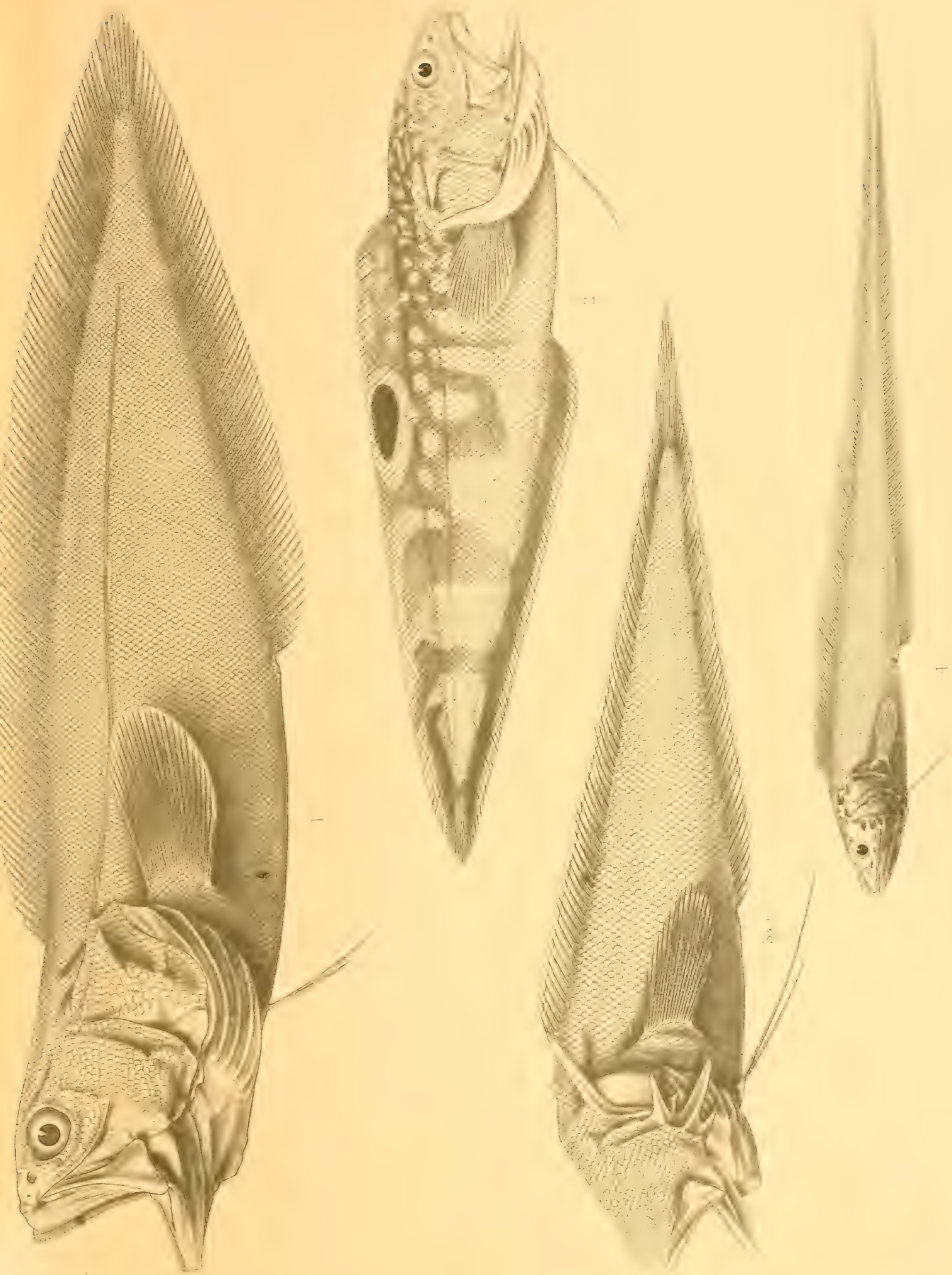
PLATE XXI.

Fig. 1.—*Neobythites squamipinnis*, Alcock, Annals and Magazine of Natural History, (6) IV, 1889, p. 386: Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, 1894, p. 123.

Fig. 2.—*Neobythites steatiticus*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXII, pt. 2, 1893, p. 181.

Fig. 3.—*Tauredophidium hextii*, Alcock, Annals and Magazine of Natural History, (6) VI, 1890, p. 213.

Fig. 4.—*Dermatorus melanocephalus*, Alcock, Annals and Magazine of Natural History, (6) VIII, 1891, p. 32.



1. *Neobythites squamipinnis*. 2. *Neobythites steaticus*. 3. *Tauredophidium hextii*. 4. *Dermatorus melanocephalus*.

EXPLANATION OF PLATE.

FISHES.

PLATE XXII.

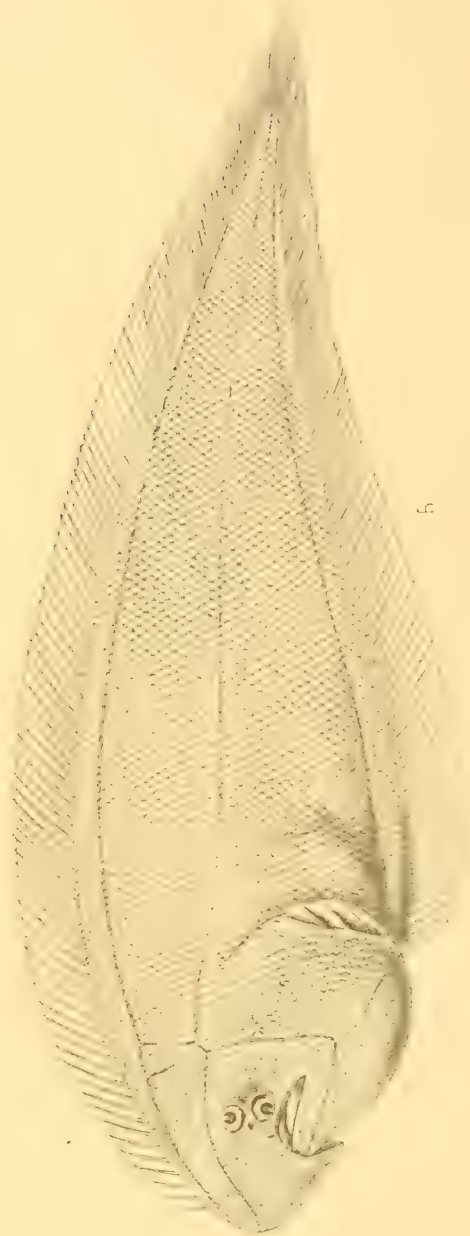
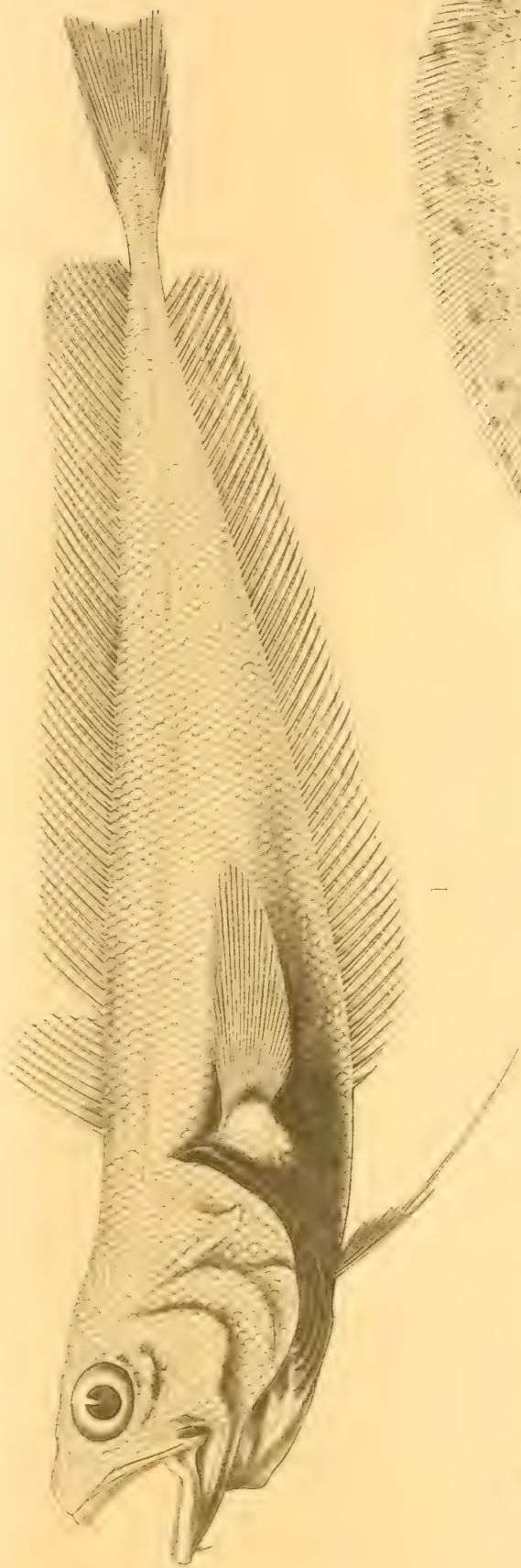
Fig. 1.—*Physiculus argyropastus*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXII, pt. 2, 1893, p. 180, and Vol. LXIII, pt. 2, 1894, p. 121.

Fig. 2.—*Brachypleura xanthosticta*, Alcock, Journal, Asiatic Society of Bengal, Vol. LVIII, pt. 2, 1889, p. 281.

Fig. 3.—*Hephithocara sinum*, Alcock, Annals and Magazine of Natural History, (6) X, 1892, p. 349.

Fig. 4.—*Arnoglossus brevirectis*, Alcock, Annals and Magazine of Natural History, (6) VI, 1890, p. 433.

Fig. 5.—*Cynoglossus carpenteri*, Alcock, Journal, Asiatic Society of Bengal, Vol. LVIII, pt. 2, 1889, p. 287: Annals and Magazine of Natural History, (6) VI, 1890, p. 217.



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EXPLANATION OF PLATE.

FISHES.

PLATE XXIII.

Fig. 1.—*Scianectes macrophthalmus*, Alcock, Annals and Magazine of Natural History, (6) VI, 1890, p. 216.

Fig. 2.—*Samaris cristatus*, Gray, Zoological Miscellany, p. 4 : Günther, Cat. Fishes, Brit. Mus., IV, 420, Alcock, Journal, Asiatic Society of Bengal, Vol. LVIII, pt. 2, 1889, p. 291.

Fig. 3.—*Arnoglossus macrolophus*, Alcock, Journal, Asiatic Society of Bengal, Vol. LVIII, pt. 2, 1889, p. 280 : Annals and Magazine of Natural History, (6) VI, 1890, p. 433.

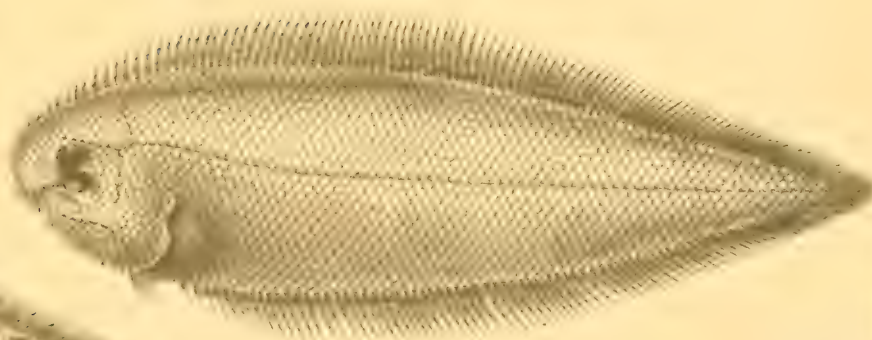
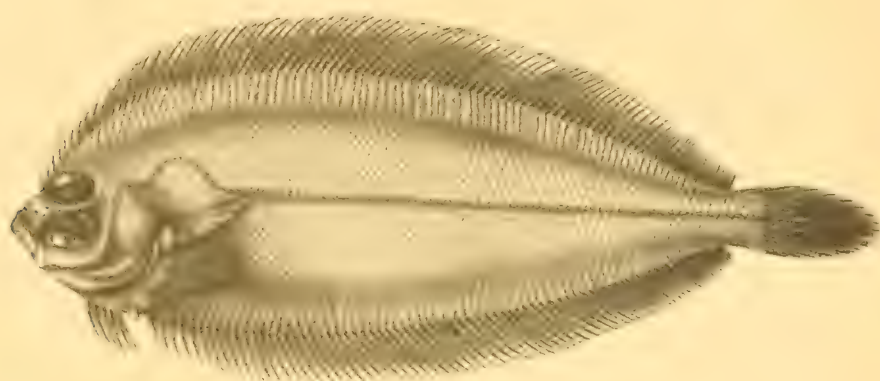
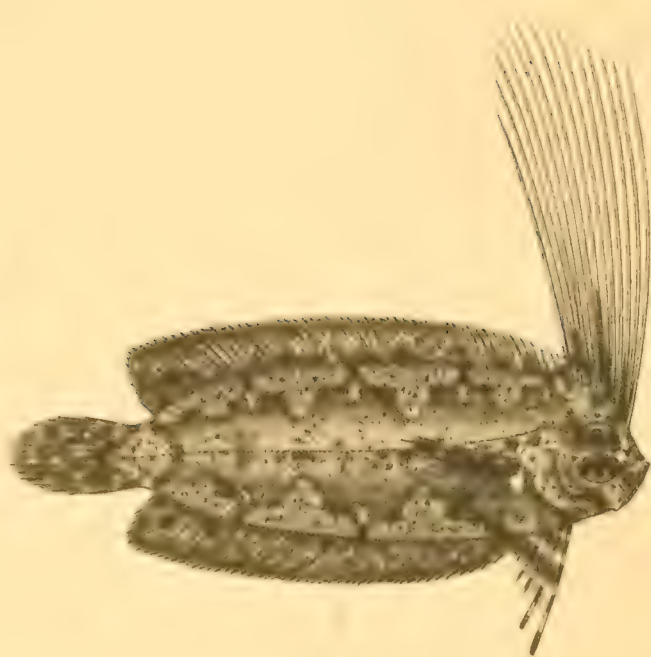
Fig. 4.—*Læops güntneri*, Alcock, Annals and Magazine of Natural History, (6) VI, 1890, p. 438.

Fig. 5.—*Cynoglossus versicolor*, Alcock, Annals and Magazine of Natural History, (6) VI, 1890, p. 442.

Fig. 6.—*Cynoglossus præcisus*, Alcock, Annals and Magazine of Natural History, (6) VI, 1890, p. 442.



1



- 1 *Sciaenectes macrophthalmus* 2 *Samaris cristatus* 3 *Arnoglossus macrolophus*
4 *Laeops guentheri* 5 *Cynoglossus versicolor* 6 *Cynoglossus praecisus*

EXPLANATION OF PLATE.

FISHES.

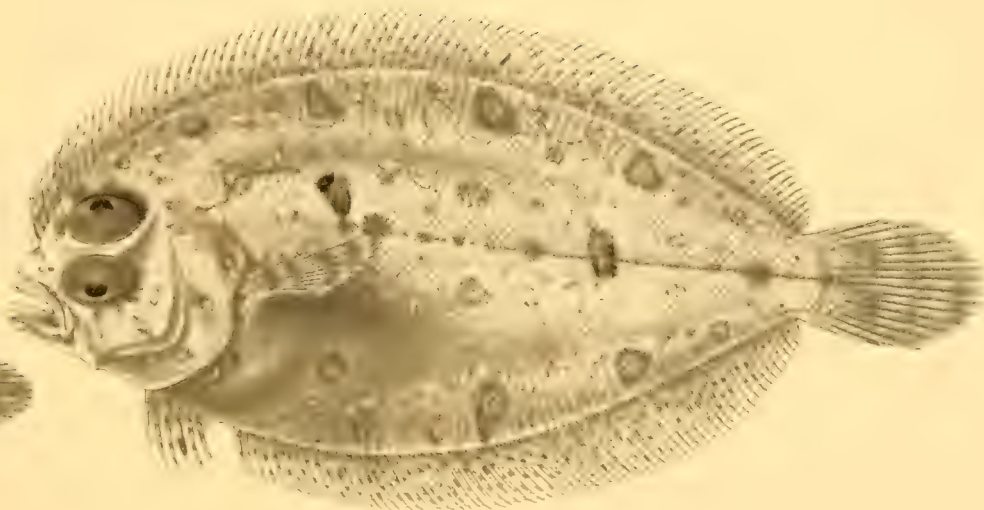
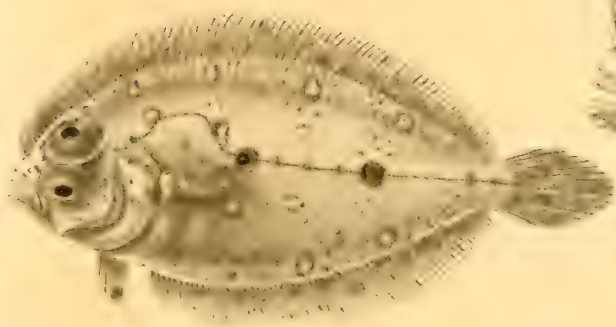
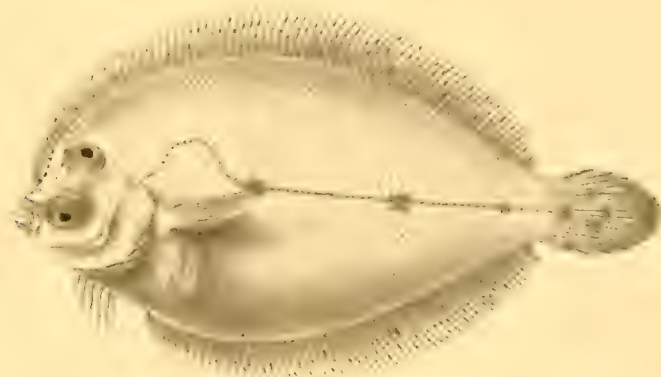
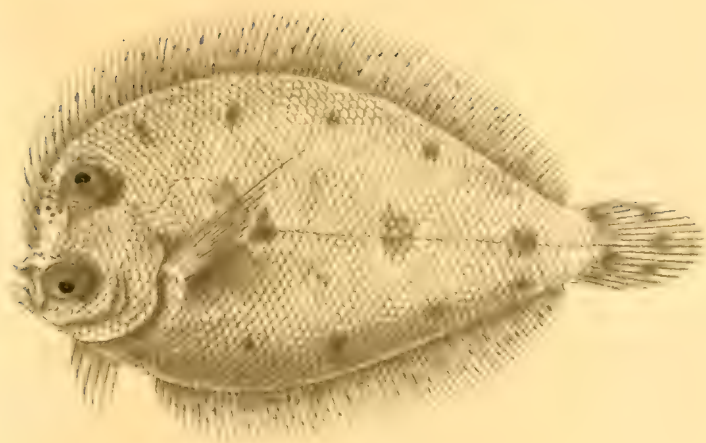
PLATE XXIV.

Fig. 1.—*Synaptura altipinnis*, Alcock, Annals and Magazine of Natural History, (6) VI, 1890, p. 441.

Fig. 2.—*Rhomboidichthys valderostratus*, Alcock, Annals and Magazine of Natural History, (6) VI, 1890, p. 435.

Fig. 3.—*Rhomboidichthys azureus*, Alcock, Journal, Asiatic Society of Bengal, Vol. LVIII, pt. 2, 1889, p. 283: Annals and Magazine of Natural History, (6) VI, 1890, p. 435.

Figs. 4, 5.—*Rhomboidichthys polylepis*, Alcock, Annals and Magazine of Natural History, (6) VI, 1890, p. 434. (Fig. 4, young, fig. 5, adult female.)



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1. *Synaptura altipinnis*. 2. *Rhomboidichthys valderostratus*. 3. *Rhomboidichthys azureus*.

4. *Arnoglossus polylepis*. 5. *Rhomboidichthys polylepis*

EXPLANATION OF PLATE.

CRUSTACEA.

PLATE XXXIII.

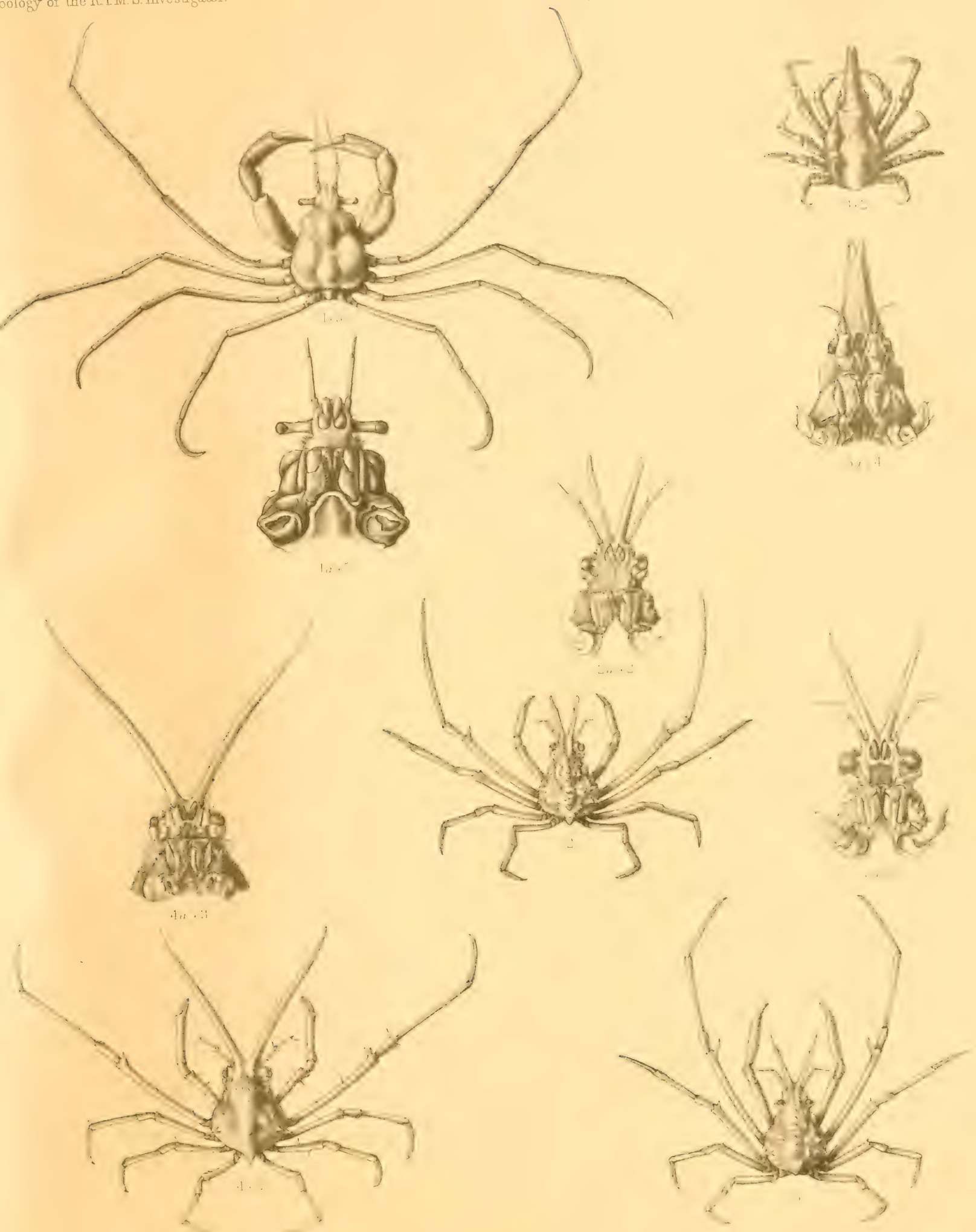
Figs. 1, 1a.—*Achaeus lacertosus*, Stimpson, Proc., Academy Natural Science, Philad. 1857, p. 218. [*Vide* Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV, pt. 2, 1895, p. 172, *Carcinological Fauna of India*.]

Figs. 2, 2a.—*Naxia cerastes*, Ortmann, in Semon's *Forschungsgr. Austral. u. Malay. Arch., Crust.* (Jena. Denk. Bd., VIII) p. 43. [*Vide* Alcock, *Carcinol. Faun. Ind. loc. cit.*, p. 220.]

Figs. 3, 3a.—*Xenocarcinus tuberculatus*, White, Proc. Zool. Soc. 1847, p. 119. [*Vide* Alcock, *Carcinol. Faun. Ind. loc. cit.*, p. 192.]

Figs. 4, 4a.—*Hyastenus tenuicornis*, Pocock, *Annals and Magazine of Natural History*, (6) V, 1890, p. 76. [*Vide* Alcock, *Carcinol. Faun. Ind. loc. cit.*, p. 215.]

Figs. 5, 5a.—*Naxia taurus*, Pocock, *Annals and Magazine of Natural History*, (6) V, 1890, p. 77. [*Vide* Alcock, *Carcinol. Faun. Ind. loc. cit.*, p. 219.]



1, *Achaeus lacertosus*, St. ♂. 2, *Naxia cerastes*, Ortm. ♂. 3, *Xenocarcinus tuberculatus*, White. ♀.
4, *Hyastenus tenuicornis*, Poc. ♂. 5, *Naxia taurus*, Poc. ♂

EXPLANATION OF PLATE.

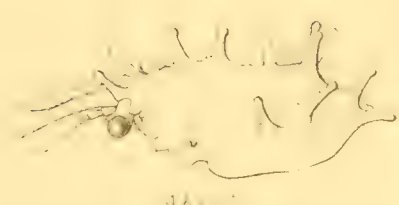
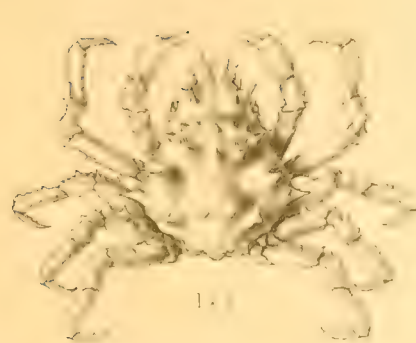
CRUSTACEA.

PLATE XXXIV.

Figs. 1, 1a ♂, 2, 2a ♀.—*Hoplophrys oatesii*, Henderson, Trans. Linn. Soc., Zool., (2) V, 1893, p. 347. [*Vide* Alcock, Carcinol. Faun. Ind., *loc. cit.*, p. 233.]

Figs. 3, 3a.—*Maia spinigera*, DeHaan, Fauna Japonica Crust., p. 93. [*Vide* Alcock, Carcinol. Faun. Ind., *loc. cit.*, p. 239.]

Figs. 4, 4a, 4b.—*Chlorinoides longispinus* (DeHaan), Fauna Japonica, Crust., p. 94. [*Vide* Alcock, Carcinol. Faun. Ind., *loc. cit.*, p. 242.]



1 Hoplophrys oatesii, Hendrsn. ♂ 2. Hoplophrys oatesii, Hendrsn. ♀
3. Maia spinigera, (De H.) 4. Chlorinoides longispinus, (De H.) ♂

EXPLANATION OF PLATE.

CRUSTACEA.

PLATE XXXV.

Figs. 1, 1a.—*Schizophrys aspera*, Milne Edwards, Hist. Nat. Crust. I, 320. [*Vide* Alcock, Carcinol. Faun. Ind., *loc. cit.*, p. 243.]

Figs. 2, 2a.—*Schizophrys dama* (Herbst), Krabben und Krebse, III, iv, p. 5. [*Vide* Alcock, Carcinol. Faun. Ind., *loc. cit.*, p. 245.]

Figs. 3, 3a.—*Micippe margaritifera*, Henderson, Trans. Linn. Soc., Zool., (2) V, 1893, p. 348. [*Vide* Alcock, Carcinol. Faun. Ind., *loc. cit.*, p. 253.]

Figs. 4, 4a.—*Micippe margaritifera*, var. *parca*, Alcock, Carcinol. Faun. Ind., *loc. cit.*, p. 253.



1. *Schizophrys aspera*, Edw. ♂. 2. *Schizophrys dama*, Herbst. ♂. 3. *Micippe margaritifera*, Hend. ♂.
4. *Micippe margaritifera*, Hend. Var. *parca*. ♀.

EXPLANATION OF PLATES.

MOLLUSCA.

PLATE VII.

Figs. 1, 1a.—*Pleurotoma (Ancistrosyrix) travancorica*, E. A. Smith, Annals and Magazine of Natural History, (6) XVIII, 1896, p. 368.

Figs. 2, 2a.—*Pleurotoma (Surcula) profundorum*, E. A. Smith, Annals and Magazine of Natural History, (6) XVIII, 1896, p. 369.

Figs. 3, 3a.—*Natica (Lunatia) abyssicola*, E. A. Smith, Annals and Magazine of Natural History, (6) XVIII, 1896, p. 370.

Figs. 4, 4a.—*Natica (Lunatia) levis*, E. A. Smith, Annals and Magazine of Natural History, (6) XVIII, 1896, p. 370.

Figs. 5, 5a.—*Dentalium magnificum*, E. A. Smith, Annals and Magazine of Natural History, (6) XVIII, 1896, p. 371.

Figs. 6, 6a.—*Cardium (Fragum) simillimum*, E. A. Smith, Annals and Magazine of Natural History, (6) XVIII, 1896, p. 372.



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3. 2.



4. 2.



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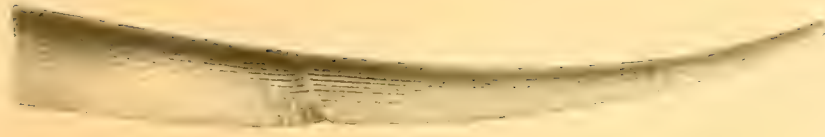
6. 2.



4. 2.



4. 2.



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6. 2.



5. 2.



6. 2.

- 1, *Pleurotoma* (*Ancistrosyrinx*) *travancorica*, E. A. Smith. 2, *Pleurotoma* (*Surcula*) *profundorum*, E. A. Smith.
 3, *Natica* (*Lunatia*) *abyssicola*, E. A. Smith. 4, *Natica* (*Lunatia*) *livis*, E. A. Smith.
 5, *Dentalium magnificum*, E. A. Smith. 6, *Cardium Fragum simillimum*, E. A. Smith.

EXPLANATION OF PLATES.

MOLLUSCA.

PLATE VIII.

Figs. 1, 1a, 1b, 1c.—*Yoldia anatina*, E. A. Smith, Annals and Magazine of Natural History, (6) XVIII, 1896, p. 373.

Figs. 2, 2a.—*Cuspidaria approximata*, E. A. Smith, Annals and Magazine of Natural History, (6) XVIII, 1896, p. 373.

Figs. 3, 3a.—*Myonera bicarinata*, E. A. Smith, Annals and Magazine of Natural History, (6) XVIII, 1896, p. 374.

Figs. 4, 4a.—*Scrobicularia ceylonica*, E. A. Smith, Annals and Magazine of Natural History, (6) XVIII, 1896, p. 375.



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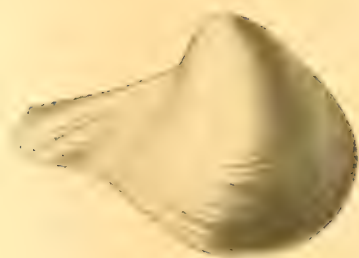
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2

- 1 *Yoldia anatina*, E. A. Smith. 2. *Cuspidaria approximata*, E. A. Smith
3 *Myonera bicarinata*, E. A. Smith. 4. *Scrobicularia ceylonica*, E. A. Smith





